Paper No. 21

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Ex parte BRUCE TOGNAZZINI

Appeal No. 2004-1531
Application No. 09/153,230

ON BRIEF

Before JERRY SMITH, RUGGIERO, and BARRY, *Administrative Patent Judges*.
BARRY, *Administrative Patent Judge*.

DECISION ON APPEAL

A patent examiner rejected claims 1, 2, 4-17, and 22-42. The appellant appeals therefrom under 35 U.S.C. § 134(a). We affirm-in-part.

BACKGROUND

The invention at issue on appeal is a user input device. (Spec. at 1.) Many computer-based applications require a user to input an intention. (Appeal Br. at 3.) According to the appellant, conventional input devices require skill and dexterity to operate or are inefficient. For example, keyboards require a modicum of typing skills.

For another example, a mouse is restricted to operate as a pointing device; the user moves the mouse with his one hand and either does nothing with the other hand or presses a few keys therewith. (Spec. at 1.)

In contrast, the appellant integrates a strip of touch-sensitive material into the left or right side of a computer keyboard. Approximately the width of a human finger, the strip is linearly sensitive in only one direction, e.g., from left-to-right. A user operates the strip by touching it with his finger. More specifically, he varies the input by changing the position along the strip and the pressure of his finger. (*Id.* at 21.)

A further understanding of the invention can be achieved by reading the following claim.

1. An input device for providing user controlled inputs, comprising:

a strip of touch-sensitive material sensitive to a range of pressure values, said strip having a substantially constant width and a length which is at least twice said width; and

an interface, connecting said strip to a computer and responsive to human contact with said strip in order to transpose the position and pressure value of said contact into a data signal and to output said data signal.

Claims 1, 2, 4-17, and 35-41 stand rejected under the doctrine of obviousness-type double patenting over claim 2 of U.S. Patent No. 5,859,629 ("Tognazzini") and U.S. Patent No. 5,365,254 ("Kawamoto"). Claims 1, 2, 4, 5, 7-11, 35, 38, and 39 stand rejected under 35 U.S.C. § 102(b) as anticipated by Kawamoto.[1] Claims 6, 12-17, 22-26, 28-33, 36, and 42 stand rejected under 35 U.S.C. § 103(a) as obvious over Kawamoto and U.S. Patent No. 4,042,777 ("Bequaert"). Claims 27 and 34 stand rejected under § 103(a) as obvious over Kawamoto; Bequaert; and U.S. Patent No. 5,111,005 ("Smith").

OPINION

Our opinion addresses the rejections in the following order:

- obviousness-type double patenting rejection of claims 1, 2, 4-17, and 35-41
- anticipation rejection of claims 1, 2, 4, 5, 7-11, 35, 38, and 39
- obviousness rejections of claims 6, 12-17, 22-34, 36, and 42.

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[1]Although the examiner's statement of the anticipation rejection includes claim 36, (Examiner's Answer at 15), the claim depends from claim 17. Accordingly, we treat claim 36 as subject to the same rejection as claim 17.

I. OBVIOUSNESS-TYPE DOUBLE PATENTING REJECTION OF CLAIMS 1, 2, 4-17, AND 35-41

"[T]o assure separate review by the Board of individual claims within each group of claims subject to a common ground of rejection, an appellant's brief to the Board must contain a clear statement for each rejection: (a) asserting that the patentability of claims within the group of claims subject to this rejection do not stand or fall together, and (b) identifying which individual claim or claims within the group are separately patentable and the reasons why the examiner's rejection should not be sustained." *In re McDaniel*, 293 F.3d 1379, 1383, 63 USPQ2d 1462, 1465 (Fed. Cir. 2002) (citing 37 C.F.R. §1.192(c)(7) (2001)). "If the brief fails to meet either requirement, the Board is free to select a single claim from each group of claims subject to a common ground of rejection as representative of all claims in that group and to decide the appeal of that rejection based solely on the selected representative claim." *Id.*, 63 USPQ2d at 1465.

Here, the appellant stipulates, "claims 2 and 4 stand or fall with claim 1, claim 15 stands or falls with claim 12. . . ." (Appeal Br. at 5.) Although he alleges, "each claim stands or falls independently of any other claim," (*id.*) the appellant fails to satisfy the second requirement. More specifically, he argues claims 1, 2, 4-6, 38, and 39 as a group, (*id.* at 9-11), and claims 7-17 and 35-37 as another group. (*Id.* at 6-9.) Therefore, claims 2, 4-6, 38, and 39 stand or fall with representative claim 1, and

claims 8-17 and 35-37 stand or fall with representative claim 7. With this representation in mind, we address the claims in the following order:

- claims 1, 2, 4-6, 38, and 39
- claims 40 and 41
- claims 7-17 and 35-37.

A. Claims 1, 2, 4-6, 38, and 39

Rather than reiterate the positions of the examiner or the appellant *in toto*, we address the two points of contention therebetween. First, the examiner finds, "it is inherent that the touch sensitive material [of Kawamoto] is sensitive to a range of pressure values (e.g. touch or untouch [sic])." (Examiner's Answer at 12.)[2] He explains, "in a most simple case, a range of pressure values are 1 and 0. The value data 1 could represent the contact is detected or the contact is above a threshold pressure value. On the other hand, the value data 0 could represent no contact is detected or the contact is below a threshold pressure value." (*Id.*) The appellant argues, "since there is another possible operation of the touch sensitive material in which the touch sensitive material does not necessarily operate in the manner

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[2]We rely on and refer to the substitute examiner's answer, (Paper No. 17), in lieu of the original examiner's answer. (Paper No. 13). The original examiner's answer was not considered in deciding this appeal.

described in the Supplemental Answer, the touch sensitive material of claim 2 is not inherently sensitive to a range of values." (Appeal Br. at 10-11.)[3]

In addressing the point of contention, the Board conducts a two-step analysis. First, we construe the claim at issue to determine its scope. Second, we determine whether the construed claim would have been obvious.

1. Claim Construction

"Analysis begins with a key legal question -- *what* is the invention *claimed*?" *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561, 1567, 1 USPQ2d 1593, 1597 (Fed. Cir. 1987). In answering the question, "the Board must give claims their broadest reasonable construction. . . ." *In re Hyatt*, 211 F.3d 1367, 1372, 54 USPQ2d 1664, 1668 (Fed. Cir. 2000).

Here, claim 1 specifies in pertinent part the following limitations: "a strip of touch-sensitive material sensitive to a range of pressure values. . . ." Giving the

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[3]We rely on and refer to the substitute appeal brief, (Paper No. 18), in lieu of the original appeal brief. (Paper No. 12). The original appeal brief was not considered in deciding this appeal.

representative claim its broadest, reasonable construction, the limitations require a strip of material sensitive to some range of pressure.

2. Obviousness-Type Double Patenting Determination

Having determined what subject matter is being claimed, the next inquiry is whether the subject matter would have been obvious. The question of obviousness is "based on underlying factual determinations including . . . what th[e] prior art teaches explicitly and inherently. . . ." *In re Zurko*, 258 F.3d 1379, 1386, 59 USPQ2d 1693, 1697(Fed. Cir. 2001) (citing *Graham v. John Deere Co.*, 383 U.S. 1, 17-18, 148 USPQ 459, 467 (1966); *In re Dembiczak*, 175 F.3d 994, 998, 50 USPQ 1614, 1616 (Fed. Cir. 1999); *In re Napier*, 55 F.3d 610, 613, 34 USPQ2d 1782, 1784 (Fed. Cir. 1995)).

Here, Kawamoto discloses "a trend graph scale alteration device. . . ." Col. 2, ll. 43-44. The device includes "a touch area 13 [wherein] the X coordinate of the touched position is detected by the touch sensors which are provided in touch area 13." *Id.* at ll. 53-55. Like with any touch-sensitive device, we find that the reference's touch area responds to some minimum pressure and any pressure greater than the minimum. We find that the pressures equal-to and greater-than the minimum pressure constitute a range of pressure.

Second, the examiner finds, "Kawamoto is cited to teach touch sensitive input device including a strip of touch sensitive material (13) having a **substantially constant width and a length which is at least twice the width** (see col. 2, lines 55-61)." (Examiner's Answer at 12.) He then asserts, "[i]t would have been obvious to one of ordinary skill in the art to have added the features of the linear touch input device with the finger size of the linear touch input device for a keyboard as taught by Kawamoto into the patented claim 2 because both patented claim 2 and Kawamoto teach the use of a touch sensitive strip area and further the finger size of the touch strip of Kawamoto can provide most effective touch area for finger input without taking too much space." (*Id.*) The appellant argues, "Kawamoto teaches touch zones on a display that are equal in width and in length, not '[strips] having substantially constant width and length which is at least twice said width.'" (Appeal Br. at 11.)

1. Claim Construction

Claim 1 further specifies in pertinent part the following limitations: "said strip having a substantially constant width and a length which is at least twice said width. . . ." Giving the representative claim its broadest, reasonable construction, the limitations further require that length of the touch-sensitive strip be at least twice its width.

2. Obviousness-Type Double Patenting Determination

Turning to Kawamoto, "FIG. 3 shows an external view of [the] trend graph scale alteration device. . . ." Col. 2, ll. 43-44. We find that the Figure further shows that the length of the touch area 13 is at least twice its width. Therefore, we affirm the obviousness-type double patenting rejection of claim 1 and of claims 2, 4-6, 38, and 39, which fall therewith.

B. Claims 40 and 41

The examiner finds, "Kawamoto discloses a second strip of touch sensitive material (14) for a fine adjustment curser movement in one dimension (e.g. horizontal dimension)." (Examiner's Answer at 13.) He asserts, "it would have been obvious to one of ordinary skill in the art to have substituted the second strip of Kawamoto for the touch keys in the patented claim 2 since the second strip of Kawamoto functions in a similar way as a touch key for modifying the movement of the first strip." (*Id.*) The appellant argues, "[k]ey 14 performs the individual function of moving the cursor one dot units; it does not interact or change the granularity of the touch area 13 so that further contact with area 13 is at a different granularity." (Appeal Br. at 12.)

1. Claim Construction

Claim 40 specifies in pertinent part the following limitations: "one of said first and second touch sensitive input strips controls granularity of the other of said first and second touch sensitive input strips." Similarly, claim 41 specifies in pertinent part the following limitations: "at least one key that when activated simultaneous to activation of either touch sensitive input strip controls granularity of input." Accordingly, the claims respectively require that a second touch-sensitive input strip controls the granularity of the aforementioned touch-sensitive input strip or that a key controls the granularity of one of the touch-sensitive input strips.

2. Obviousness-Type Double Patenting Determination

"In rejecting claims under 35 U.S.C. Section 103, the examiner bears the initial burden of presenting a *prima facie* case of obviousness." *In re Rijckaert*, 9 F.3d 1531, 1532, 28 USPQ2d 1955, 1956 (Fed. Cir. 1993) (citing *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992)). "'A *prima facie* case of obviousness is established when the teachings from the prior art itself would . . . have suggested the claimed subject matter to a person of ordinary skill in the art.'" *In re Bell*, 991 F.2d 781, 783, 26 USPQ2d 1529, 1531 (Fed. Cir. 1993) (quoting *In re Rinehart*, 531 F.2d 1048, 1051, 189 USPQ 143, 147 (CCPA 1976)).

Here, Figure 3 of Kawamoto further shows a fine adjustment cursor movement key 14 noted by the examiner. We are unpersuaded, however, that the fine adjustment cursor movement key 14 controls the granularity of the touch area 13. To the contrary, the fine adjustment cursor movement key 14 moves a cursor independently of the touch area 13. Specifically, the reference explains that "cursor 12 can be moved to a touch zone by touching touch area 13 and then moved by one dot units using the fine adjustment cursor movement key 14. . . ." Col. 2, ll. 65-67. Therefore, we reverse the obviousness-type double patenting rejection of claims 40 and 41

C. Claims 7-17 and 35-37

Admitting that "patented claim 2 is silent in what the location of the touch strip is," (Examiner's Answer at 7), the examiner asserts, "Kawamoto is cited to teach a keyboard having an integrated touch input device, the keyboard comprising; a housing supporting a plurality of keys (14, 18), the housing having a top face, bottom face, and left and right edge, and a linear touch input device (e.g. 13) located adjacent to at bottom edges on said top face. . . ." (Examiner's Answer at 7.) The appellant argues, "Kawamoto has touch sensitive material on a graphical display screen, which is not a keyboard." (Appeal Br. at 8.)

For its part, Figure 3 of Kawamoto shows that its display screen 10 includes the aforementioned fine adjustment cursor movement key 14. Kawamoto further discloses that a "[g]raph enlargement screen touch key (henceforth knowns [sic] as "the enlargement key") 16 and graph reduction screen touch key 17 are provided on the right edge of display screen 10. . . ." Col. 3, ll. 1-4. Because Kawamoto's display includes keys, we find that it constitutes a keyboard. Therefore, we affirm the obviousness-type double patenting rejection of claim 7 and of claims 8-17 and 35-37, which fall therewith.

II. ANTICIPATION REJECTION OF CLAIMS 1, 2, 4, 5, 7-11, 35, 38, AND 39

The appellant stipulates, "claims 2 and 4 stand or fall with claim 1. . . ." (Appeal Br. at 5.) Although he alleges, "each claim stands or falls independently of any other claim," (*id.*) the appellant argues claims 7-11 and 35 as a group. (*Id.* at 18-20.) Therefore, claims 8-11 and 35 stand or fall with representative claim 7. With this representation in mind, we address the claims in the following order:

- claims 1, 2, and 4
- claim 5
- claim 38
- claim 39
- claims 7-11 and 35.

1. Claims 1, 2, and 4

The examiner finds, "Kawamoto discloses . . . connecting strip to a computer and responsive to human contact with the strip in order to transpose the position and pressure value of the contact into a data signal and to output the data signal (see 2, lines 51-67)." (Examiner's Answer at 15.) The appellant argues, "Kawamoto does not teach sending to the computer a signal responsive to both 'position and pressure value' as required by claim 1. Only the position is sent." (Appeal Br. at 15.)

In addressing the point of contention, the Board conducts a two-step analysis. First, we construe the claim at issue to determine its scope. Second, we determine whether the construed claim is anticipated.

1. Claim Construction

Claim 1 further specifies in pertinent part the following limitations: "transpose the position and pressure value of said contact into a data signal and to output said data signal." Giving the representative claim its broadest, reasonable construction, the limitations require outputting a signal responsive to the pressure and position of contact with the strip of material sensitive to some range of pressure.

2. Anticipation Determination

"Having construed the claim limitations at issue, we now compare the claims to the prior art to determine if the prior art anticipates those claims." *In re Cruciferous Sprout Litig.*, 301 F.3d 1343, 1349, 64 USPQ2d 1202, 1206 (Fed. Cir. 2002). "[A]nticipation is a question of fact." *Hyatt*, 211 F.3d at 1371, 54 USPQ2d at 1667 (citing *Bischoff v. Wethered*, 76 U.S. (9 Wall.) 812, 814-15 (1869); *In re Schreiber*, 128 F.3d 1473, 1477, 44 USPQ2d 1429, 1431 (Fed. Cir. 1997)). "A claim is anticipated . . . if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros., Inc. v. Union Oil Co.*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987) (citing *Structural Rubber Prods. Co. v. Park Rubber Co.*, 749 F.2d 707, 715, 223 USPQ 1264, 1270 (Fed. Cir. 1984); *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 1548, 220 USPQ 193, 198 (Fed. Cir. 1983); *Kalman v. Kimberly-Clark Corp.*, 713 F.2d760, 771, 218 USPQ 781, 789 (Fed. Cir. 1983)).

Here, as mentioned regarding the obvious-type double patenting rejection, the reference's touch area responds to some minimum pressure. When the minimum pressure is sensed, "the X coordinate of the touched position is detected by the touch sensors which are provided in touch area 13." Col. 2, ll. 53-55. A signal representing

the sensed X coordinate is then sent to "a cursor moving unit 25," col. 3, ll. 25-26, and "the destination for cursor 12 is set to be the touch zone which contains the X position coordinate detected by the touch sensor (step S4) and cursor 12 is moved to this touch zone (step 5)." *Id* at ll. 56-59. We find that the signal sent to the cursor moving unit 25 is responsive to both the pressure of contact with the touch area 13 and the position in the x-direction of that contact. Therefore, we affirm the anticipation rejection of claim 1 and of claims 2 and 4, which fall therewith.

2. Claim 5

The examiner finds, "Kawamoto discloses that the linear touch input device further comprises a number of touch keys or buttons (14, 16, 17)." (Examiner's Answer at 15.) The appellant argues, "all input in the Kawamoto device is on touch sensitive material rather than on keys or buttons." (Appeal Br. at 17.)

1. Claim Construction

Claim 5 specifies in pertinent part the following limitations: "said input device further comprises a number of keys or buttons. . . ." Giving the claim its broadest, reasonable construction, the limitations require keys or buttons.

2. Anticipation Determination

As mentioned regarding the obvious-type double patenting rejection, Kawamoto includes keys for fine adjustment cursor movement, enlargement, and graph reduction. Therefore, we affirm the anticipation rejection of claim 5.

3. Claim 38

The examiner finds, "Kawamoto discloses a second strip of touch sensitive material (16, 17, Fig. 3 and 23, Fig. 4)." (Examiner's Answer at 19.) The appellant argues, "'a second strip of touch sensitive material' . . . is not shown by Kawamoto." (Appeal Br. at 17.)

For its part, as mentioned regarding the obvious-type double patenting rejection, Kawamoto includes an enlargement key 16 and a graph reduction key 17. Because the reference describes both these keys as "touch" keys, col. 3, ll. 1-3, we find that both are embodied by a touch-sensitive material. Therefore, we affirm the anticipation rejection of claim 38.

4. Claim 39

The examiner finds, "Kawamoto discloses a two-dimensional input. For example, element 13 controls the cursor movement in horizontal direction. Elements 16 and 17 controls a vertical zooming direction." (Examiner's Answer at 19.) The appellant argues, "Kawamoto only teaches touch sensitive areas to input one dimension, the 'X axis' (Kawamoto, column 2, lines 14-15). Elements 16 and 17 are '[g]raph enlargement screen key . . . 16 and graph reduction screen key 17.'" (Appeal Br. at 18.)

1. Claim Construction

"[L]imitations are not to be read into the claims from the specification." *In re Van Geuns*, 988 F.2d 1181, 1184, 26 USPQ2d 1057, 1059 (Fed. Cir. 1993) (citing *In re Zletz*, 893 F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989)). Here, claim 39 further specifies in pertinent part the following limitations: "said first and second strips of touch sensitive material in combination control two-dimensional input." Giving the claim its broadest, reasonable construction, the limitations require that two touch-sensitive strips collectively control two-dimensional (2-D) input.

2. Anticipation Determination

As mentioned regarding the obvious-type double patenting rejection, Kawamoto's touch area 13 and fine adjustment cursor movement key 14 control movement in the x-direction. For its part, the enlargement key 16 and the graph reduction key 17 control enlargement or reduction in the y-direction. For example, in the event of "enlarged display input, the X coordinate of cursor 12 is read (step S10) and then the Y coordinate is found from the indicator line of the X coordinate and its point of intersection with the trend graph (step 11). Next the enlarged display range W of The [sic] Y axis with The [sic] Y axis of point of intersection B at its center is set on the basis of the degree of enlargement specified by the enlargement specification input (step S12)." Col. 4, ll. 22-26. Because keys 13 and 14 control movement of the cursor in the x-direction, and keys 16 and 17 control movement of the display range in the y-direction, we find that the keys collectively control 2-D input in the x-direction and in the y-direction. Therefore, we affirm the anticipation rejection of claim 39.

5. Claims 7-11 and 35

The appellant repeats his argument that "Kawamoto has touch sensitive material on a graphical display screen, which is not a keyboard." (Appeal Br. at 18.) As mentioned regarding the obviousness-type double patenting rejection, we found that

because Kawamoto's display includes keys, it constitutes a keyboard. Therefore, we affirm the anticipation rejection of claim 7 and of claims 8-11 and 35, which fall therewith.

III. OBVIOUSNESS REJECTIONS OF CLAIMS 6, 12-17, 22-34, 36, AND 42

The appellant stipulates, "claim 15 stands or falls with claim 12, claim 23 stands or falls with claim 22, and claim 30 stands or falls with claim 29." (Appeal Br. at 5.) Therefore, claim 15 stands or falls with representative claim 12; claim 23 stands or falls with representative claim 22; and claim 30 stands or falls with representative claim 29. With this representation in mind, we address the claims in the following order:

- claims 6, 12, 15, and 42
- claim 13, 14, 16, 17, 22, 23, 29, and 30
- claim 36
- claims 24 and 31
- claims 25 and 32
- claims 26 and 33
- claim 28
- claims 27 and 34.

1. Claims 6, 12, 15, and 42

Finding that "Bequaert discloses a touch input device comprises four keys (finger section) and a strip (thumb section) both can be touched simultaneously," (Examiner's Answer at 16), the examiner asserts, "[i]t would have been obvious to one of ordinary

skill in the art to have modified the input device of Kawamoto with the features of keys arrangements and simultaneously touched as taught by Bequaert, because the simultaneously touched of input keys can input more characters by using less keys." (*Id.*) The appellant argues, "Kawamoto teaches only a touch sensitive strip and Bequaert teaches only keys, so the combination does not address, and cannot address, the positional relationships of keys to the touch sensitive strip." (Appeal Br. at 23.)

"Non-obviousness cannot be established by attacking references individually where the rejection is based upon the teachings of a combination of references." *In re Merck*, 800 F.2d, 1091, 1097, 231 USPQ 375, 380 (Fed. Cir. 1986) (citing *In re Keller*, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981)). "'Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art.'" *Cable Elec. Prods., Inc. v. Genmark, Inc.*, 770 F.2d 1015, 1025, 226 USPQ 881, 886-87 (Fed. Cir. 1985) (quoting *Keller*, 642 F.2d at 425, 208 USPQ at 881).

Here, the rejection is based on the combined teachings of Kawamoto and Bequaert. As aforementioned, Kawamoto discloses a touch area 13, a touch-sensitive fine adjustment cursor movement key 14, an enlargement key 16, and a graph reduction key 17. For its part, Bequaert discloses "[a] keyboard which has 10 keys

controlled by the four fingers and four keys controlled by the thumb of the same hand." Abs., ll. 1-3. The latter reference explains that "[a]n above average typist should be able to type at a faster rate on this one-handed keyboard than on the conventional two-handed keyboard." Col. 2, ll. 20-23. Because Kawamoto discloses a touch area and keys, and Bequaert discloses that arranging keys to allow operation by one hand offers faster typing, we conclude that the combined teachings of the references would have suggested arranging a touch area and keys to allow one-handed operation. Therefore, we affirm the obviousness rejection of claims 6, 12, 15, and 42.

2. Claims 13, 14, 16, 17, 22, 23, 29, and 30

The appellant argues that "the combination . . . does not suggest putting a touch sensitive strip on a keyboard." (Appeal Br. at 24.) As mentioned regarding the obviousness-type double patenting rejection, we found that because Kawamoto's display includes keys, it constitutes a keyboard. As also aforementioned, this keyboard includes a touch area 13 and touch-sensitive fine adjustment cursor movement key 14. Therefore, we affirm the obviousness rejection of claims 13, 14, 16, 17, 22, 23, 29, and 30.

3. Claim 36

The examiner finds, "Kawamoto discloses a two-dimensional input. For example, element 13 controls the cursor movement in horizontal direction. Elements 16 and 17 controls a vertical zooming direction." (Examiner's Answer at 19.) The appellant argues, "dependent claim 36 recites 'a two dimensional input signal' which is not shown by Kawamoto which only teaches one dimension, the axis X." (Appeal Br. at 20.)

1. Claim Construction

Claim 36 specifies in pertinent part the following limitations: "said second linear touch input device used in conjunction with said signal first linear touch input device for generating a two-dimensional input signal." In contrast to claim 39, the limitations require that two touch-sensitive strips generate a 2-D signal.

2. Obviousness Determination

Kawamoto's touch area 13 and fine adjustment cursor movement key 14 control movement only generate a one-dimensional signal, viz., a signal in the x-direction. Similarly, the Kawamoto's enlargement key 16 and graph reduction key 17 only generate a one-dimensional signal, viz., a signal in the y-direction.

The examiner fails to allege, let alone show, that the addition of Bequaert cures the aforementioned deficiency of Kawamoto. Absent a teaching or suggestion of generating a 2-D signal, we are unpersuaded of a *prima facie* case of obviousness. Therefore, we reverse the obviousness rejection of claim 36.

4. Claims 24 and 31

The examiner finds, "Kawamoto clearly teaches a scrolling control (e.g. scrolling the cursor on the horizontal directions by touching the strip area 13)." (Examiner's Answer at 21.) The appellant argues, "Kawamoto merely positions a cursor relative to a graph with touch sensitive areas and does not scroll in response to the signal produced when the touch sensitive area is touched." (Appeal Br. at 25.)

1. Claim Construction

Claims 24 and 31 specify in pertinent part the following limitations: "said processor controls scrolling of said display in accordance with said input data signal." Giving the claim their broadest, reasonable construction, the limitations require scrolling a display in response to an input data signal.

2. Obviousness Determination

Kawamoto discloses that its "[f]ine adjustment cursor movement key 14 is touched when it is desired to move cursor 12. . . ." Col. 3, ll. 64-65. More specifically, responsive to "input from fine adjustment cursor movement key the cursor 12 is moved one dot along axis X (step S8)." Col. 4, ll. 5-7. Because the reference moves its cursor in response to activation of key 14, we find that Kawamoto scrolls its display in response to an input data signal. Therefore, we affirm the obviousness rejection of claims 24 and 31.

5. Claims 25 and 32

The examiner asserts, "Bequaert teaches inputting characters." (Examiner's Answer at 20.) The appellant argues, "Kawamoto . . . does not display a text document in response to the signal produced when the touch sensitive area is touched. . . . Bequaert fails to cure the deficiency of Kawamoto." (Appeal Br. at 25.)

1. Claim Construction

Claim 25 specifies in pertinent part the following limitations: "said image display data represents a text document and said computer system performs processing of said text document in accordance with said keyboard signal and display of said text

document in accordance with said input data signal from said linear touch input device." Claim 32 includes similar limitations.

2. Obviousness Determination

The examiner fails to allege, let alone show, that the combination of Kawamoto and Bequaert teaches or would have suggested processing or displaying a text document. Therefore, we reverse the obviousness rejection of claims 25 and 32.

6. Claims 26 and 33

The examiner asserts, "Kawamoto clearly teaches a pointing device for controlling cursor movement." (Examiner's Answer at 20.) The appellant argues, "dependent claim 26 recites 'a pointing device' and 'controls said image in accordance with said input data signal from said linear touch input device and . . . said pointing device,' which is not shown by either reference or the combination." (Appeal Br. at 20.)

As mentioned regarding the obvious-type double patenting rejection, Kawamoto's touch area 13 and fine adjustment cursor movement key 14 control movement in the x-direction. Because the reference moves its cursor in response to activation of key 14, we find that the fine adjustment cursor movement key constitutes a

pointing device. Therefore, we affirm the obviousness rejection of claims 26 and 33.

7. Claim 28

The examiner asserts, "Kawamoto clearly teaches a computer containing a linear touch input device." (Examiner's Answer at 21.) The appellant argues, "claim 28 recites 'further . . . one or more computers, each containing said linear touch input device' which is not shown by either reference or suggested by the combination." (Appeal Br. at 25.)

1. Claim Construction

Claim 28 specifies in pertinent part the following limitations: "one or more computers, each containing said linear touch input device." Giving the claim its broadest, reasonable construction, the limitations require one computer containing a linear touch input device.

2. Obviousness Determination

Figure 4 of Kawamoto shows a computer containing the reference's touch area, fine adjustment cursor movement key, enlargement key, and graph reduction key. Therefore, we affirm the obviousness rejection of claim 28.

7. Claims 27 and 34

Finding that "Smith teaches a touch pointing device which can generating either two-dimensional input signal or three-dimensional input signal," ((Examiner's Answer at 21), the examiner concludes, "[i]t would have been obvious . . . to have modified Kawamoto as modified with the features of multi-dimensional input control as taught by Smith, so that the user can use the pointing device in a three-dimensional display." (*Id.*) The appellant argues, "neither Kawamoto nor Bequaert mention a need for three dimensional pointing. Kawamoto specifically is confined to a two-dimensional graph on a two dimensional display, and Bequaert does not mention generating a 3d [sic] input signal." (Appeal Br. at 27.)

"[T]o establish obviousness based on a combination of the elements disclosed in the prior art, there must be some motivation, suggestion or teaching of the desirability of making the specific combination that was made by the applicants." *In re Kotzab*, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1316 (Fed. Cir. 2000) (citing *In re Dance*, 160 F.3d 1339, 1343, 48 USPQ2d 1635, 1637 (Fed. Cir. 1998); *In re Gordon*, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984)). "[T]he factual inquiry whether to combine references must be thorough and searching." *McGinley v. Franklin Sports, Inc.*, 262 F.3d 1339, 1351-52, 60 USPQ2d 1001, 1008 (Fed. Cir. 2001). "This factual

question . . . [cannot] be resolved on subjective belief and unknown authority." *In re Lee*, 277 F.3d 1338, 1343-44, 61 USPQ2d 1430, 1434 (Fed. Cir. 2002). "It must be based on objective evidence of record." *Id.* at 1343, 61 USPQ2d at 1434.

Here, Kawamoto displays a 2-D display in the x-y plane. *See* Figs. 6 and 7. Directed to a keyboard, Bequaert does not mention a three-dimensional ("3-D") display. Lacking a 3-D display, we are unpersuaded that Kawamoto or Bequaert would have benefitted from Smith's 3-D pointing device. Therefore, we reverse the obviousness rejection of claims 27 and 34.

CONCLUSION

In summary, the rejection of claims 1, 2, 4-17 and 35-39 under the doctrine of obviousness-type double patenting is affirmed. In contrast, the rejection of claims 40 and 41 under the doctrine of obviousness-type double patenting is reversed.

The rejection of claims 1, 2, 4, 5, 7-11, 35, 38, and 39 under § 102(b) is affirmed. The rejection of claims 6, 12-17, 22-24, 26, 28-31, 33, 42 under § 103(a) is also affirmed. In contrast, the rejections of claim 25, 27, 32, 34, and 36 under § 103(a) is reversed.

"Any arguments or authorities not included in the brief will be refused consideration by the Board of Patent Appeals and Interferences. . . ." 37 C.F.R. § 1.192(a)(2002). Accordingly, our affirmance is based only on the arguments made in the brief. Any arguments or authorities not included therein are neither before us nor at issue but are considered waived. No time for taking any action connected with this appeal may be extended under 37 C.F.R. § 1.136(a).

AFFIRMED-IN-PART

JERRY SMITH
Administrative Patent Judge

JOSEPH F. RUGGIERO
Administrative Patent Judge

LANCE LEONARD BARRY
Administrative Patent Judge

) BOARD OF PATENT
) APPEALS
) AND
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